



SEQUENCE LISTING

RECEIVED

SEP 04 2002

TECH CENTER 1600/2900

<110> E.I. DUPONT DE NEMOURS & COMPANY, INC.

EBERSOLE, RICHARD C.

HENDRICKSON, EDWIN

<120> NUCLEIC ACID FRAGMENTS FOR THE IDENTIFICATION OF DECHLORINATING BACTERIA

<130> BC1002 US NA

<140> US/09/548,998D

<141> 2002-06-13

<150> 60/129,511

<151> 1999-04-15

<160> 60

<170> PatentIn version 3.1

<210> 1

<211> 24

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 1
attttctagc gagactgccc cgcg

24

<210> 2

<211> 1377

<212> DNA

<213> Dehalococcoides ethenogenes strain PL

<400> 2

gatgaacgct agcggcgtgc cttatgcatg caagtcgaac ggtcttaagc aattaagata	60
gtggcaaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga	120
aactgaaggt aataccgcat gtgatgggct gacataagtc ggttcattaa agccgcaagg	180
tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggcc taccaaggct	240
tcgatcggta gctggtctga gaggatgac agccacactg ggactgagac acggcccaga	300
ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac	360
gccgcgtgag ggatgaaggc tttcgggttg taaacctctt ttcacaggga agaataatga	420
cggtaacctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga	480
agcaagcgtt atccggattht attgggcgta aagtgagcgt aggtggtctt tcaagttgga	540
tgtgaaattht cccggcttaa ccgggacgtg tcattcaata ctggttgact agagtacagc	600
aggagaaaac ggaattcccg gtgtagtggg aaaatgcgta gatatcggga ggaacaccag	660
aggcgaaggc ggtthttctag gttgtcactg acactgaggc tcgaaagcgt ggggagcgaa	720
cagaattaga tactctggta gtccacgcct taaactatgg acactaggta tagggagtat	780
cgaccctctc tgtgccgaag ctaacgctyt aagtgtcccg cctggggagt acggtcgcaa	840
ggctaaaact caaaggaatt gacggggggc cttacaagca gcggagcgtg tggthtaatt	900
cgatgctaca cgaagaacct taccaagatt tgacatgcat gaagtagtga accgaaagg	960
aaacgacctg ttaagtcagg agthttgcaca ggtgctgcat ggctgtcgtc agctcgtgcc	1020
gtgaggtgtht tggthtaagtc ctgcaacgag cgcaaccctt gttgctagtht aaaththtcta	1080
gcgagactgc cccgcgaaac ggggaggaag gtgggggatga cgtcaagtca gcatggcctt	1140
tatatcttg gctacacaca cgctacaatg gacagaacaa taggthtcaa cagthtgaac	1200
tggagctaat ccccaaagct gtcctcagtht cggattgcag gctgaaaccc gcctgcatga	1260
agthtgagtht gctagtaacc gcatatcagc aaggtgcggt gaatacgttc tcgggccttg	1320
tacacaccgc ccgtcacgtc atgaaagccg gtaacacttg aagtcgatgt gccaacc	1377

<210> 3

<211> 1378

<212> DNA

<213> Dehalococcoides ethenogenes strain V/SFD

<400> 3

gatgaacgct agcggcgtgc cttatgcatg caagtcgaac ggtcttaagc aattaagata	60
gtggcaaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga	120
aactgaaggt aataccgcat gtgggtggcc gacataagtt ggttcactaa agccgtaagg	180
tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaacggcc taccaaggct	240
tcgatcggtg gcttggtctg agaggatgat cagccacact gggactgaga cacggcccag	300
actcctacgg gaggcagcag caaggaatct tgggcaatgg gcgaaagcct gaccagcaa	360
cgccgcgtga gggatgaagg ctctcgggtt gtaaacctct tttcacaggg aagaataatg	420
acggtacctg tggaataagc ttcggctaac tacgtgccag cagccgcggt aatacgtagg	480
aagcaagcgt tatccggatt tattgggcgt aaagtgagcg taggtggtct ttcaagttgg	540
atgtgaaatt tcccggctta accgggacgt gtcattcaat actgttggaac tagagtacag	600
caggagaaaa cggaattccc ggtgtagtgg taaaatgcgt agatatcggg aggaacacca	660
gaggcgaagg cggttttcta ggttgctact gacactgagg ctcgaaagcg tggggagcga	720
acagaattag atactctggt agtccacgcc ttaaactatg gacactaagt atagggagta	780
tcgaccctct ctgtgccgaa gctaacgctt taagtgtccc gcctggggag tacggtcgca	840
aggctaaaac tcaaaggaat tgacgggggc ccgcacaagc agcggagcgt gtggtttaat	900
tcgatgctac acgaagaacc ttaccaagat ttgacatgca tgaagtagtg aaccgaaagg	960
gaaacgacct gttaagtcag gagtttgac aggtgctgca tggctgtcgt cagctcgtgc	1020
cgtgaggtgt ttggttaagt cctgcaacga gcgcaaccct tggtgctagt taaattttct	1080
agcgagactg cccgcgaaa cggggaggaa ggtgggggatg acgtcaagtc agcatggcct	1140
ttatatcttg ggctacacac acgctacaat ggacagaaca ataggttgca acagtgtgaa	1200
ctggagctaa tcctcaaagc tgtcctcagt tcggattgca ggctgaaacc cgctgcatg	1260
aagttggagt tgctagtaac cgcatatcag caaggtgcgg tgaatacgtt ctcgggcctt	1320
gtacacaccg cccgtcacgt catgaaagcc ggtaacactt gaagtcgatg tgccaacc	1378

<210> 4

<211> 1377

<212> DNA

<213> Dehalococcoides ethenogenes strain DAB

<400> 4

```
gatgaacgct agcggcgtgc cttatgcatg caagtcgaac ggtcttaagc aattaagata      60
gtggcgaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga      120
aactgaaggt aataccgcat gtggtgggcc gacatatgtt ggttcactaa agccgtaagg      180
cgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggcc taccaaggct      240
tcgatcggta gctggtctga gaggatgac agccacactg ggactgagac acggcccaga      300
ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac      360
gccgcgtgag ggatgaaggc tttcggggtg taaacctctt ttcataggga agaataatga      420
cggtagctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga      480
agcaagcggt atccggatgt attgggcgta aagtgagcgt aggtggtctt tcaagttgga      540
tgtgaaatgt cccggcttaa ccgggacgag tcattcaata ctgttggaact agagtacagc      600
aggagaaaac ggaattcccg gtgtagtggt aaaatgcgta gatatcggga ggaacaccag      660
aggcgaaggc ggttttctag gttgtcactg acactgaggc tcgaaagcgt ggggagcgaa      720
cagaattaga tactctggta gtccacgcct taaactatgg acactaggta tagggagtat      780
cgaccctctc tgtgccgaag ctaacgcctt aagtgtcccg cctggggagt acggtcgcaa      840
ggctaaaact caaaggaatt gacgggggcc cgcaacaagc gcgagcgtg tggtttaatt      900
cgatgctaca cgaagaacct taccaagatt tgacatgcat gtagtagtga actgaaaggg      960
gaacgacctg ttaagtcagg aacttgaca ggtgctgcat ggctgtcgtc agctcgtgcc      1020
gtgagggtgt tggttaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta      1080
gcgagactgc cccgcgaaac ggggaggaag gtggggatga cgtcaagtca gcatggcctt      1140
tatatcttgg gctacacaca cgctacaatg gacagaacaa taggttgcaa cagtgtgaac      1200
tgagagctaat ccccaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga      1260
agttggagtt gctagtaacc gcatatcagc atgggtgcgt gaatacgttc tcgggccttg      1320
tacacaccgc ccgtcacgtc atgaaagccg gtaacacttg aagtcgatgt gccaacc      1377
```

<210> 5

<211> 1377

<212> DNA

<213> Dehalococcoides ethenogenes strain PIN

<400> 5

gatgaacgct agcggcgtgc cttatgcatg caagtcgaac ggtcttaagc aattaagata	60
gtggcgaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga	120
aactgaaggt aataccgcat gtgggtggcc gacatatgtt ggttcactaa agccgtaagg	180
cgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggcc taccaaggct	240
tcgatcggta gctggtctga gaggatgac agccacactg ggactgagac acggcccaga	300
ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac	360
gccgcgtgag ggatgaaggc tttcgggttg taaacctctt ttcataaggga agaataatga	420
cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga	480
agcaagcgtt atccggattt attgggcgta aagtgagcgt aggtggtctt tcaagttgga	540
tgtgaaattt cccggcttaa ccgggacgag tcattcaata ctgttggaact agagtacagc	600
aggagaaaac ggaattcccg gtgtagtggg aaaatgcgta gatatcggga ggaacaccag	660
aggcgaaggc ggttttctag gttgtcactg aactgaggc tcgaaagcgt ggggagcgaa	720
cagaattaga tactctggta gtccacgcct taaactatgg aactaggta tagggagtat	780
cgaccctctc tgtgccgaag ctaacgcttt aagtgtcccg cctggggagt acggtcgcaa	840
ggctaaaact caaaggaatt gacgggggccc cgcacaagca gcggagcgtg tggtttaatt	900
cgatgctaca cgaagaacct taccaagatt tgacatgcat gtagtagtga actgaaaggg	960
gaacgacctg ttaagtcagg aacttgacac ggtgctgcat ggctgtcgtc agctcgtgcc	1020
gtgaggtgtt tgggttaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta	1080
gcgagactgc cccgcgaaac ggggaggaag gtggggatga cgtcaagtca gcatggcctt	1140
tatatcttgg gctacacaca cgctacaatg gacagaacaa taggttgcaa cagtgtgaac	1200
tggagctaata ccccaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga	1260
agttggagtt gctagtaacc gcatatcagc atggtgcggt gaatacgttc tcgggccttg	1320

tacacaccgc ccgtcacgtc atgaaagccg gtaacacttg aagtcgatgt gcccaacc 1377

<210> 6

<211> 1377

<212> DNA

<213> Dehalococcoides ethenogenes strain DLL

<400> 6

gatgaacgct agcggcgtgc cttatgcatg caagtcgaac ggtcttaagc aattaagata	60
gtggcaaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga	120
aactgaaggt aataccgcat gtgggtggcc gacataagtt ggttcactaa agccgtaagg	180
tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaacggcc taccaaggct	240
tcgatcggta gctggtctga gaggatgac agccacactg ggactgagac acggcccaga	300
ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac	360
gccgcgtgag ggatgaaggc tctcgggttg taaacctctt ttcacaggga agaataatga	420
cggtagctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga	480
agcaagcgtt atccggattt attgggcgta aagtgagcgt aggtggtctt tcaagttgga	540
tgtgaaattt cccggcttaa ccgggacgtg tcattcaata ctgttggaact agagtacagc	600
aggagaaaac ggaattcccg gtgtagtggg aaaatgcgta gatatcggga ggaacaccag	660
aggcgaaggc ggttttctag gttgtcactg aactgaggc tcgaaagcgt ggggagcgaa	720
cagaattaga tactctggtg gtccacgcct taaactatgg aactaggta tagggagtat	780
cgaccctctc tgtgccgaag ctaacgcttt aagtgtcccg cctggggagt acggtcgcaa	840
ggctaaaact caaaggaatt gacgggggccc cgacaagca gcggagcgtg tggtttaatt	900
cgatgctaca cgaagaacct taccaagatt tgacatgcat gaagtagtga accgaaaggg	960
aaacgacctg ttaagtcagg agtttgcaca ggtgctgcat ggctgtcgtc agctcgtgcc	1020
gtgaggtggt tgggttaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta	1080
gcgagactgc cccgcgaaac ggggaggaag gtggggatga cgtcaagtca gcatggcctt	1140
tatatcttgg gctacacaca cgctacaatg gacagaacaa taggttgcaa cagtgtgaac	1200
tggagctaat cctcaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga	1260
agttggagtt gctagtaacc gcatatcagc aaggtgcggt gaatacgttc tcgggccttg	1320

tacacaccgc ccgtcacgtc atgaaagccg gtaacacttg aagtcgatgt gcccaacc 1377

<210> 7

<211> 1443

<212> DNA

<213> Dehalococcoides ethenogenes strain 195

<220>

<221> misc_feature

<222> (1353)..(1353)

<223> N= unknown

<400> 7

gatgaacgct agcggcgtgc cttatgcatg caagtcgaac ggtcttaagc aattaagata 60

gtggcaaacg ggtgagtaac gcgtaagtaa cctacctcta agtgggggat agcttcggga 120

aactgaaggt aataccgcat gtgatgggct gacataagtc ggttcattaa agccgcaagg 180

tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggtc taccaaggct 240

tcgatcggta gctggcttga gaggatgatc agccacactg ggactgagac acgggccaga 300

ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360

gccgcgtgag ggatgaaggc tttcgggttg taaacctctt ttcacagga agaataatga 420

cggtagctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtaggg 480

aagcaagcgt tatccggatt tattgggcgt aaagtgagcg taggtggtct ttcaagttgg 540

atgtgaaatt tcccggctta accgggacgt gtcattcaat actgttggac tagagtacag 600

caggagaaaa cggaattccc ggtgtagtgg taaaatgcgt agatatcggg aggaacacca 660

gaggcgaagg cggttttcta ggttgctact gacactgagg ctcgaaagcg tggggagcga 720

acagaattag atactctggt agtccacgcc ttaaactatg gacactaggt atagggagta 780

tcgaccctct ctgtgccgaa gctaacgctt taagtgtccc gcctggggag tacggtcgca 840

aggctaaaac tcaaaggaat tgacgggggc ccgcacaagc agcggagcgt gtggtttaat 900

tcgatgctac acgaagaact taccaagatt tgacatgcat gaagtagtga accgaaaggg 960

aaacgacctg ttaagtcagg agtttgcaca ggtgctgcat ggctgtcgtc agtcgtgcc 1020
 gtgaggtggt gggttaagtc ctgcaacgag cgcaaccttg ttgctagtta aattttctag 1080
 cgagactagc gagactgccc cgcgaaacgg ggaggaaggt ggggatgacg tcaagtcagc 1140
 atggccttta tatcttgggc tacacacacg ctacaatgga cagaacaata ggttgcaaca 1200
 gtgtgaactg gagctaattcc ccaaagctgt cctcagttcg gattgcaggc tgaaaccgc 1260
 ctgcatgaag ttggagttgc tagtaaccgc atatcagcaa ggtgcggtga atacgttctc 1320
 gggccttgta cacaccgccc gtcacgtcat ganagccggt aacacttgaa gtcgatgtgc 1380
 caaccgcaag gaggcagtcg ccgaggggtgg gactggtaat tgggacgaag tcgtaacaag 1440
 gta 1443

<210> 8

<211> 47

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 8
 tgtgrtgggc ygacatawgt yggttcayta aagccgyaag gygcttg

47

<210> 9

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 9
 aagtcgaacg gtcttaagca

20

<210> 10

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 10
cgtcattatt cttccctgtg

20

<210> 11

<211> 21

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 11
gggaaacgac ctgttaagtc a

21

<210> 12

<211> 22

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 12
ggattagctc cagttcacac tg

22

<210> 13

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 13
aaatttaact agcaacaagg

20

<210> 14

<211> 19

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 14

ggagtatcga ccctctctg

19

<210> 15

<211> 18

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 15
gggagtatcg accctctc

18

<210> 16

<211> 18

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 16
agtgaaccga aagggaaa

18

<210> 17

<211> 21

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 17
gggttgtaaa cctcttttca c

21

<210> 18

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 18
gttagcttcg gcacagagag

20

<210> 19

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 19

tcagtgacaa cctagaaaac

20

<210> 20

<211> 17

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 20

gatgaacgct agcggcg

17

<210> 21

<211> 18

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 21

gtgccttatg catgcaag

18

<210> 22

<211> 21

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 22

aataggttgc aacagtgtga a

21

<210> 23

<211> 22

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 23

aatggacaga acaatagggt gc

22

<210> 24

<211> 21

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 24

ggcacatcga cttcaagtgt t

21

<210> 25

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 25

gggttgtaaa cctcttttca

20

<210> 26

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 26

taaccgggac gwgtcattca

20

<210> 27

<211> 19

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 27

gagtacagca ggagaaaac

19

<210> 28

<211> 21

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 28

cctccttgcg gttggcacat c

21

<210> 29

<211> 19

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 29

ggcagtctcg ctagaaaat

19

<210> 30

<211> 51

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 30

tgwagtagtg aacmgaaagg graacgacct gttaagtcag garmttgac a

51

<210> 31

<211> 18

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 31

attttctacg cgagactg

18

<210> 32

<211> 27

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 32

attttctacg cgagactagc gagactg

27

<210> 33

<211> 1542

<212> DNA

<213> Escherichia coli

<400> 33

aaattgaaga gtttgatcat ggctcagatt gaacgctggc ggcaggccta acacatgcaa 60

gtcgaacggt aacaggaaga agcttgcttc tttgctgacg agtggcggac gggtgagtaa 120

tgtctgggaa actgcctgat ggagggggat aactactgga aacggtagct aataccgcat 180

aacgtcgcaa gaccaaagag ggggaccttc gggcctcttg ccatcgatg tgcccagatg 240

ggattagcta gtaggtgggg taacggctca cctagggcagc gatccctagc tgggtctgaga 300

ggatgaccag ccacactgga actgagacac ggtccagact cctacgggag gcagcagtgg 360

ggaatattgc acaatgggcg caagcctgat gcagccatgc cgcgtgtatg aagaaggcct 420

tcgggttgta aagtactttc agcggggagg aaggaggtaa agttaatacc tttgctcatt 480

gacgttacc gcagaagaag caccggctaa ctccgtgcc gacgccgcgg taatacggag 540

ggtgcaagcg ttaatcggaa ttactgggcg taaagcgcac gcaggcggtt tgttaagtca	600
gatgtgaaat ccccgggctc aacctgggaa ctgcatctga tactggcaag cttgagtctc	660
gtagaggggg gtagaattcc aggtgtagcg gtgaaatgcg tagagatctg gaggaatacc	720
ggtggcgaa gcgggccccct ggacgaagac tgacgctcag gtgcgaaagc gtggggagca	780
aacaggatta gataccctgg tagtccacgc cgtaaacgat gtcgacttgg aggttgtgcc	840
cttgaggcgt ggcttccgga gctaacgcgt taagtcgacc gcctggggag tacggccgca	900
agggttaaac tcaaataaat tgacgggggc cgcacaagc ggtggagcat gtggtttaat	960
tcgatgcaac gcgaagaacc ttacctggtc ttgacatcca cggaagtttt cagagatgag	1020
aatgtgcctt cgggaaccgt gagacagggt ctgcatggct gtcgtcagct cgtgttgtga	1080
aatgttgggt taagtcccg c aacgagcgca acccttatcc tttgttgcca gcggtccggc	1140
cgggaactca aaggagactg ccagtataa actggaggaa ggtggggatg acgtcaagtc	1200
atcatggccc ttacgaccag ggctacacac gtgctacaat ggcgcataca aagagaagcg	1260
acctcgcgag agcaagcgga cctcataaag tgcgtcgtag tccggattgg agtctgcaac	1320
tcgactccat gaagtcggaa tcgctagtaa tcgtggatca gaatgccacg gtgaatacgt	1380
tcccgggcct tgtacacacc gcccgtcaca ccatgggagt gggttgcaaa agaagtaggt	1440
agcttaacct tcgggagggc gcttaccact ttgtgattca tgactgggggt gaagtcgtaa	1500
caaggtaacc gtaggggaac ctgcggttgg atcacctcct ta	1542

<210> 34

<211> 49

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 34

aacccttggt gctagttaaa ttttctagcg agactgcccc gcgaaacgg	49
---	----

<210> 35

<211> 43

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 35
tgtgatgggc tgacataagt cggttcatta aagccgcaag gtg

43

<210> 36

<211> 43

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 36
caccttgagg ctttaataag cgcacttatg tcagcccatc aca

43

<210> 37

<211> 43

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 37
tgtggtgggc cgacataagt tggttcacta aagccgtaag gtg

43

<210> 38

<211> 43

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 38
caccttacgg ctttagtgaa ccaacttatg tcggcccacc aca

43

<210> 39

<211> 43

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 39
tgtggtgggc cgacatatgt tggttcacta aagccgtaag gcg

43

<210> 40

<211> 43

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 40
cgccttacgg ctttagtgaa ccaacatatg tcggcccacc aca

43

<210> 41

<211> 36

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 41
agttaaattt tctagcgaga ctgccccgcg aaacgg

36

<210> 42

<211> 36

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 42
ccgtttcgcg gggcagtcctc gctagaaaat ttaact

36

<210> 43

<211> 29

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 43
agttaaattt tctagcgaga ctgccccgc

29

<210> 44

<211> 29

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 44
gcggggcagt ctcgctagaa aatttaact

29

<210> 45

<211> 30

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 45
ccttggtgct agttaaattt tctagcgaga

30

<210> 46

<211> 30

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 46
tctcgctaga aaatttaact agcaacaagg

30

<210> 47

<211> 32

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 47
gacatgcatg aagtagtgaa ccgaaagggg aa

32

<210> 48

<211> 32

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 48
tttccctttc gggttcactac ttcacatgcatg tc

32

<210> 49

<211> 30

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 49
ggacgtgtca ttcaatactg ttggactaga

30

<210> 50

<211> 30

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 50
tctagtccaa cagtattgaa tgacacgtcc

30

<210> 51

<211> 32

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 51
tgttggacta gactacagca ggagaaaacg ga 32

<210> 52

<211> 32

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 52
tccgttttct cctgctgtac tctagtccaa ca 32

<210> 53

<211> 29

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 53
ggcttaaccg ggacgtgtca ttcaatact 29

<210> 54

<211> 29

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 54
agtattgaat gacacgtccc ggtaagcc 29

<210> 55

<211> 37

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 55
aatttcccgg cttaaccggg acgtgtcatt caatact

37

<210> 56

<211> 37

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 56
agtattgaat gacacgtccc ggттаagccg ggaaatt

37

<210> 57

<211> 31

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 57
tgtтаagтca ggagtttgca caggtgctgc a

31

<210> 58

<211> 31

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 58
tgcagcacct gtgcaaactc ctgacttaac a

31

<210> 59

<211> 31

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 59
cgcgtaagta acctacctct aagtggggga t

31

<210> 60

<211> 31

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 60
atccccact tagaggtagg ttacttacgc g

31